

Student name

PSYCHOLOGY

Unit 3

Trial Examination

QUESTION AND ANSWER BOOK

Total writing time: 1 hour 30 minutes

Structure of book

Section	Number of questions	Number of questions to be attempted	Number of marks
A	45	45	45
B	11	11	35
C	2	1	10
Total			90

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculators are allowed in this examination.

Materials supplied

- Question and answer book of 20 pages with a detachable answer sheet for multiple-choice questions inside the front cover.

Instructions

- Detach the answer sheet for multiple-choice questions during reading time.
- Write your **name** in the space provided above on this page and on the answer sheet for multiple-choice questions.
- All written responses should be in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

END OF EXAMINATION

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PSYCHOLOGY
Unit 3 Trial Examination
MULTIPLE CHOICE ANSWER SHEET

**STUDENT
NAME:**

INSTRUCTIONS:

USE PENCIL ONLY

- Write your name in the space provided above.
- Use a **PENCIL** for **ALL** entries.
- If you make a mistake, **ERASE** it – **DO NOT** cross it out.
- Marks will **NOT** be deducted for incorrect answers.
- **NO MARK** will be given if more than **ONE** answer is completed for any question.
- Mark your answer by **SHADING** the letter of your choice.

	ONE ANSWER PER LINE		ONE ANSWER PER LINE		ONE ANSWER PER LINE
1	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	16	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	31	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
2	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	17	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	32	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
3	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	18	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	33	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
4	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	19	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	34	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
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8	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	23	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	38	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
9	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	24	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	39	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
10	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	25	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	40	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
11	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	26	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	41	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
12	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	27	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	42	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
13	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	28	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	43	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
14	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	29	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	44	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
15	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	30	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	45	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D

SECTION A – Multiple-choice questions**Instructions for Section A**

Answer all questions in pencil on the answer sheet provided for Multiple-Choice Questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1, an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Section A is worth 45 marks.

Question 1

Consciousness is considered to be a hypothetical construct because it

- A. is not directly observable.
- B. is an essential part of our being.
- C. involves being aware of one's psychological states, such as emotions and sensations.
- D. cannot be described in terms of any of the physical sciences, such as chemistry or biology.

Question 2

Which of the following statements best represents René Descartes' ideas about consciousness?

- A. Consciousness is a reality, and it is a valid area of study for Psychology.
- B. I know I am a conscious being because I am capable of thinking and reasoning.
- C. Consciousness is a function of the activities of the brain and the nervous system.
- D. Consciousness is like a continuous stream within which everything that we experience is included.

Question 3

Alice is so absorbed in answering the questions in this examination that she is unaware of the passage of time.

Alice is, most likely, in a state of

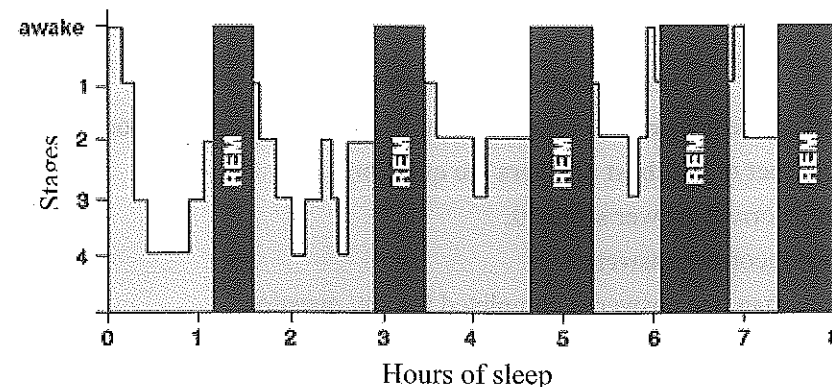
- A. altered consciousness because of her distortion of time perception.
- B. normal waking consciousness because she is capable of selective attention.
- C. normal waking consciousness because her brain wave pattern does not exhibit alpha waves.
- D. normal waking consciousness because her temperature and blood pressure are in the normal range.

Question 4

During a period of focused attention, our attention is likely to become divided if we

- A. are exposed to a novel stimulus.
- B. experience the 'cocktail party phenomenon'.
- C. are exposed to a stimulus that is important to us.
- D. experience any one of the above situations.

Question 5



The sleep-cycle chart above is most likely that of a healthy

- A. infant.
- B. young child.
- C. young adult.
- D. elderly person.

Question 6

According to research into the purpose of sleep, NREM sleep

- A. is critically important for brain growth.
- B. plays a part in recovery from tissue fatigue.
- C. helps preserve important neural pathways in the brain.
- D. assists in consolidating memories of newly learned information.

Question 7

Sam, a 19 year-old student with a part-time job, has averaged about five hours of sleep per night for the past six months.

Which of the following is the **least** likely consequence of Sam's sleep deprivation?

- A. slower reaction times
- B. impaired processing in short-term memory
- C. temporary and relatively minor psychological effects
- D. impaired ability to access information stored in long-term memory

Question 8

Stage 3 sleep is characterised by the appearance of

- A. alpha waves and an increase in muscle tone.
- B. delta waves and an increase in muscle tone.
- C. alpha waves and a reduction in muscle tone.
- D. delta waves and a reduction in muscle tone.

Question 9

Which of the following statements about sleep is **not** supported by observations?

- A. When we go to sleep later, we experience less stage 4 sleep than when we go to sleep early, even if we sleep for the same length of time.
- B. As the night progresses, we spend less and less time in deep sleep.
- C. As the night progresses, we spend more time in REM sleep.
- D. We usually wake up after a period of dream-sleep.

Question 10

During REM sleep we are likely to experience all of the following **except**

- A. nightmares.
- B. sleepwalking.
- C. irregular heartbeat.
- D. heightened physiological arousal.

Questions 11 and 12 refer to the following information

Electrode stimulation (ES) and transcranial magnetic stimulation (TMS) are two methods in which the brain is stimulated directly to determine the function of a specific area.

Question 11

For psychologists, the chief value of direct brain stimulation research is that

- A. its findings are readily generalised to the population.
- B. it can be conducted without transgressing ethical guidelines.
- C. it provides information to help people who experience problems due to brain damage.
- D. it helps researchers establish cause-effect relationships between brain structure and function.

Question 12

TMS involves

- A. stimulating the specific brain region with radioactive glucose.
- B. exposing the brain, then stimulating a specific region using a magnetic pulse.
- C. stimulating a specific brain region by sending a magnetic pulse through the skull.
- D. using electrodes to deliver an electric current to stimulate the specific brain region.

Questions 13 and 14 refer to the following observations.

According to one theory of sleep, its main purpose is to enhance survival by keeping animals inactive and concealed during the time when they are most vulnerable.

Question 13

Which of the following research evidence provides the strongest support for this theory?

- A. Larger animals tend to sleep more than do smaller animals.
- B. In the case of large animals, predators tend to sleep more than do their prey.
- C. In general, active people sleep for longer periods of time than less active individuals.
- D. In general, sleep deprived people are more likely to become ill than are well-rested people.

Question 14

The main criticism of this theory is that

- A. we don't really know why sleep is necessary for our wellbeing.
- B. the loss of awareness associated with sleep threatens survival.
- C. sleep appears to be necessary for memory formation and body restoration.
- D. people no longer have to fear the night because of the ready availability of light and shelter.

Question 15

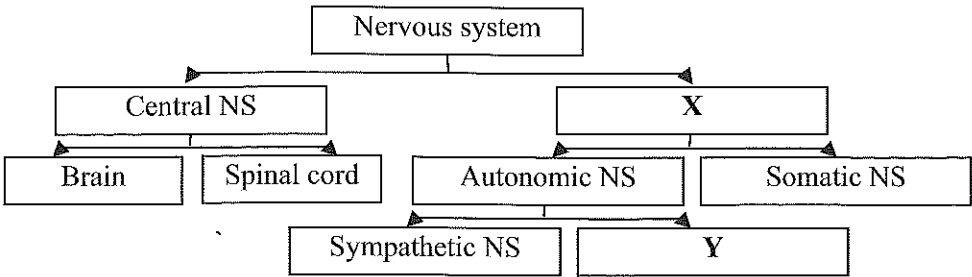
Nat and Mim both underwent brain scanning procedures.

Nat's procedure involved a computer compiling a series of cross-sectional pictures of the brain. Mim had a radioactive chemical injected into her bloodstream.

Which type of brain scan did Nat and Mim most likely have?

	Nat	Mim
A.	MRI scan	fMRI scan
B.	fMRI scan	MRI scan
C.	CT scan	PET scan
D.	PET scan	CTscan

Question 16



In the above diagram, showing the organisation of the human nervous system, what do X and Y represent?

	X	Y
A.	Voluntary NS	Involuntary NS
B.	Involuntary NS	Voluntary NS
C.	Parasympathetic NS	Peripheral NS
D.	Peripheral NS	Parasympathetic NS

Question 17

Our sympathetic NS is most likely to be activated when we are

- A. frightened.
- B. daydreaming.
- C. falling asleep.
- D. actively studying.

Question 18

Which of the following statements about the autonomic NS is **not** true?

- A. It is responsible for maintaining homeostasis.
- B. It is responsible for initiating the fight-flight response.
- C. It connects the Central NS to the internal organs and glands.
- D. It connects the Central NS to skeletal muscles.

Question 19

Which of the following correctly gives the function of the occipital and temporal lobes of the cerebral cortex?

	Occipital lobe	Temporal lobe
A.	Involved in motor processing	Involved in somatosensory processing
B.	Involved in somatosensory processing	Involved in motor processing
C.	Site of the visual cortex	Site of the auditory cortex
D.	Site of the auditory cortex	Site of the visual cortex

Questions 20 and 21 refer to the following information

As a result of an accident that caused brain damage, Ari is experiencing difficulty both understanding and producing speech.

Question 20

Ari has most likely sustained damage to the

- A. left cerebral hemisphere, regardless of handedness.
- B. right cerebral hemisphere, regardless of handedness.
- C. right cerebral hemisphere if right-handed and left cerebral hemisphere if left-handed.
- D. both cerebral hemispheres, regardless of handedness.

Question 21

Which of the following specific areas were most likely damaged, for Ari to experience these problems?

	Difficulty understanding speech	Difficulty producing speech
A.	Wernicke's area	Broca's area
B.	Broca's area	Wernicke's area
C.	Occipital lobe	Parietal lobe
D.	Parietal lobe	Occipital lobe

Question 22

Tess, a split-brain patient, is seated in front of a screen. As she focuses on the centre of the screen, the image of a spoon is briefly flashed to the right side of the screen.

It is most likely that Tess will

- A. be able to both verbally name the object and to pick it up with her hand.
- B. not perceive the object and will deny that any image appeared on the screen.
- C. not be able to name it but will be able to use her hand to pick up the correct object.
- D. not be able to name it or use her hand to pick up the correct object.

Question 23

After surgery to alleviate symptoms of epilepsy, Rod’s ability to form new memories was greatly impaired.

Which brain structure was most likely damaged by the surgery?

- A. the left somatosensory cortex
- B. the hypothalamus
- C. the hippocampus
- D. the thalamus

Question 24

Which of the following structures are most involved in regulating attention and arousal?

- A. the thalamus and the reticular activating system
- B. the pons and the medulla
- C. the right frontal lobe
- D. the amygdala

Question 25

Consider the following changes in neuron structure and function, observed during memory formation:

- I increase in amount of neurotransmitter produced and released by neurons
- II increase in number of dendrites
- III formation of new synaptic connections

Which of these changes are associated with storage of information in STM and LTM?

	Short term memory (STM)	Long term memory (LTM)
A.	I	I; II; III
B.	I; II	I; II; III
C.	I; III	I; II
D.	II	I; II; III

Question 26

Ram is researching differences in people’s ability to take in, store and retrieve information.

What is the most likely focus of Ram’s research?

- A. the short-term memory system only
- B. the working memory system only
- C. the long-term memory system only
- D. all aspects of the memory system

Question 27

Which of the following memory stores holds a large amount of information for a brief period of time?

- A. procedural memory
- B. long term memory
- C. working memory
- D. sensory memory

Question 28

The process of converting incoming information into a form that can be stored in memory is referred to as _____ while the process of remembering is referred to as _____.

- A. storage; retrieval
- B. encoding; retrieval
- C. storage; recall or recognition
- D. encoding; recall or recognition

Question 29

In order to recite a poem learned ten years ago, it must be retrieved from

- A. long-term memory and transferred to echoic memory.
- B. echoic memory and transferred to working memory.
- C. long-term memory and transferred to working memory.
- D. working memory and transferred to long-term memory.

Question 30

Which of the following best describes the capacity and duration of short-term memory?

	Capacity (number of items)	Duration (seconds)
A.	7	3
B.	7	20
C.	18	3
D.	18	20

Question 31

What process most facilitates the transfer of information from sensory memory to short-term memory?

- A. maintenance rehearsal
- B. elaborative rehearsal
- C. chunking
- D. attention

Question 32

Consider the following questions:

- I Where did you put your sunglasses?
- II How do you dance the tango?
- III What is the name of your Psychology teacher?

Which of these questions would test a person’s semantic memory and episodic memory ?

	Semantic memory	Episodic memory
A.	II and III	I
B.	III	I and II
C.	III	I
D.	I	II

Questions 33 to 35 refer to the following information.

In a study, one group of students was taught to make up questions as part of their study strategy. Another group, similar in gender, age and cognitive ability, did not use this study strategy.

The students using the strategy obtained significantly better marks than those who did not use it.

Question 33

This research study can be considered to be an experiment because it

- A. tests a hypothesis.
- B. is conducted in a laboratory.
- C. compares the results of two or more groups of participants.
- D. involves the systematic manipulation of the independent variable.

Question 34

Which of the following best describes this study’s design?

- A. repeated measures
- B. independent groups
- C. matched participants
- D. experimental design

Question 35

The study strategy used by the participants is an example of

- A. implicit learning.
- B. deliberate learning.
- C. elaborative rehearsal.
- D. maintenance rehearsal.

Question 36

Not being able to remember something one has definitely learned is most likely due to

- A. attention failure.
- B. inadequate rote rehearsal.
- C. inadequate elaborative rehearsal.
- D. absence of appropriate retrieval cues.

Question 37

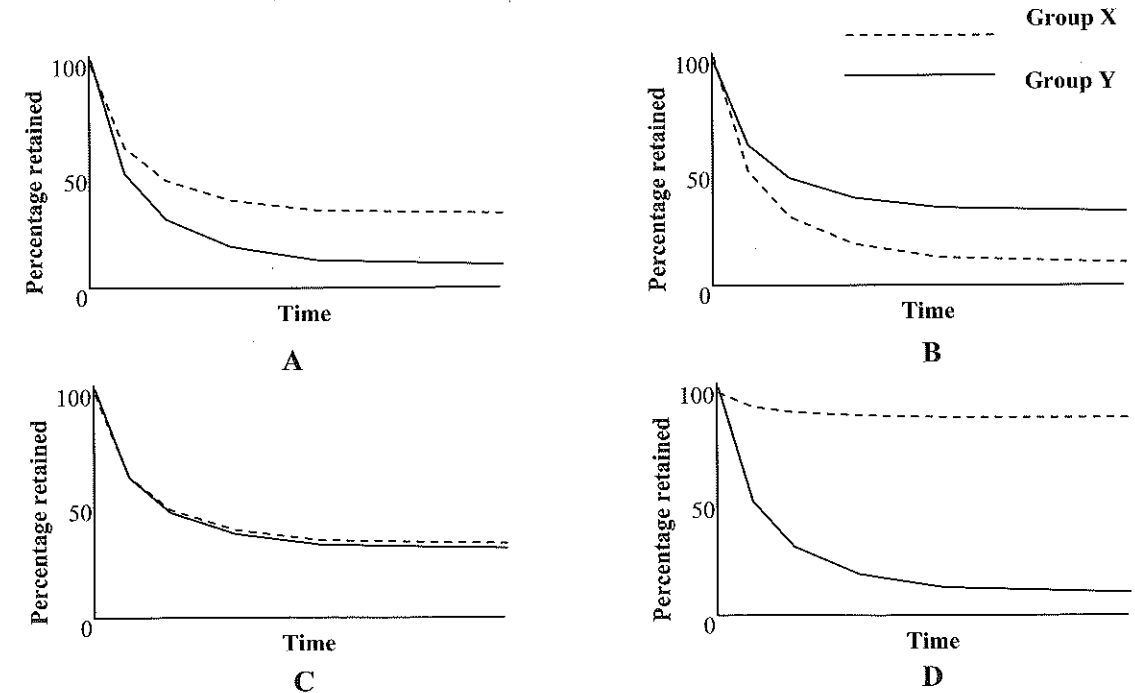
Which of the following theories of forgetting states that if learned information is not periodically reactivated, any brain changes that have taken place will fade over time?

- A. retroactive interference theory
- B. semantic network theory
- C. decay theory
- D. amnesia theory

Question 38

In an experiment, one group (X) was given twice as long as another group (Y) to fully memorise the same list of nonsense syllables. Their memory of the syllables was then tested over a period of time.

Which of the following outcomes would be most likely?



Question 39

Two different groups of participants (M and N) fully memorised the same list of nonsense syllables. Then, Group M was shown a much larger set of syllables and asked to identify the previously seen ones, while Group N was asked to write down the syllables they remembered.

What measure of retention was used to test each group, and how did their scores most likely compare?

	Measure of retention		Comparative score
	M	N	
A.	Recall	Recognition	M: higher score
B.	Recall	Recognition	N: higher score
C.	Recognition	Recall	M: higher score
D.	Recognition	Recall	N: higher score

Question 40

As a child, Sonia had a friend called Marita. Ten years later, at work, she became friendly with a girl named Marion.

If, occasionally Sonia calls her new friend by her old friend’s name she is demonstrating

- A. proactive interference.
- B. retroactive interference.
- C. state-dependent retrieval failure.
- D. context-dependent retrieval failure.

Questions 41 and 42 refer to the following information.

After falling off his bike and hitting his head, Jonah finds that he cannot remember the incident, or anything he learned at school that day. However, he does remember how to play squash, a game he learned as a child.

Question 41

The information enabling Jonah to play squash is stored in his

- A. declarative memory
- B. procedural memory
- C. semantic memory
- D. episodic memory

Question 42

Jonah’s memory loss is a form of

- A. retrograde amnesia, best explained by motivated forgetting
- B. retrograde amnesia, best explained by consolidation failure
- C. anterograde amnesia; best explained by motivated forgetting
- D. anterograde amnesia; best explained by consolidation failure

Question 43

To remember the key ideas for a speech, Pat visualises them at key locations around his house.

The name given to the mnemonic technique Pat is using is the

- A. method of loci.
- B. peg-word method.
- C. acrostic method.
- D. method acronyms.

Question 44

Which of the following observations is **least** supported?

As they age, people

- A. have better memory for semantic information than for episodic information.
- B. perform less well on tests requiring recall than on those requiring recognition.
- C. perform better on tests of procedural memory than on tests of declarative memory.
- D. become more motivated to memorise all information, regardless of its significance.

Question 45

In a study of the effects of a drug on memory, 100 people were randomly allocated to one of two groups. One group received the drug, the other received a sugar pill. The study used double-blind procedures. It was found that the people given the drug performed significantly better on a subsequent memory test than those not given the drug.

Can it be concluded that the drug caused memory improvement?

- A. Yes, because the study is internally valid
- B. No, because of the presence of a placebo effect.
- C. No, but it can be said that a positive correlation exists between the drug and memory improvement.
- D. No, because people’s memory was not tested before they were given the drug or the placebo.

END OF SECTION A

SECTION B – Short answer questions

Instructions for Section B

Answer **all** questions in the spaces provided.

The number of marks allocated to a question indicates the appropriate length of the response.

Section B is worth 35 marks.

Question 1

- a. Describe William James' ideas about consciousness.

1 mark

- b.** Using examples, distinguish between controlled and automatic processes in normal waking consciousness.

2 marks

Question 2

Give two reasons why the meditative state is considered to be an altered state of consciousness.

2 marks

Question 3

- a.** What is the adolescent sleep-wake cycle shift?

1 mark

- b.** Describe **two** changes associated with this phenomenon.

2 marks

Question 4

- a.** What is amicrosleep?

1 mark

What is REM sleep rebound?

1 mark

- b.** What do these two phenomena have in common?

1 mark

Question 5

The table below lists two devices commonly used in sleep laboratories to monitor a person's state.

- a. For each, describe what the device measures and how it could be used to distinguish between REM and NREM sleep.

Device	What device measures	Difference between REM and NREM sleep
EEG		
EOG		

4 marks

- b.** A person's heart rate may also be considered in conjunction with the measures listed above. Explain why heart rate, if used by itself, would be an unreliable indicator of a person's sleep stage.

1 mark

Question 6

Des has developed a herbal medication he believes will help people with insomnia. To test the drug, he advertises for volunteers by placing an advertisement in a newspaper. He interviews each of the twenty people who respond regarding their sleep patterns and uses their comments to calculate a 'sleep quality' score. They are then given the drug and instructions on its use and told to return in six months. When they return, each is again interviewed by Des and a score is again calculated. A statistical analysis of 'before' and 'after' scores shows an improvement in reported sleep quality ($p < 0.05$).

Des concludes that his medication is an effective insomnia treatment. However, critics maintain that this conclusion is not justified because of the study's many flaws, including 'experimenter' and 'placebo' effects.

a. Explain the 'placebo' effect and describe a strategy to reduce its impact on a study's results.

2 marks

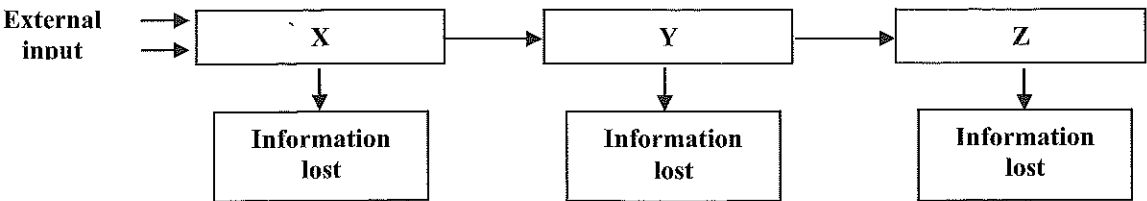
b. Explain the 'experimenter effect' and describe a strategy to reduce its impact on this study's results.

2 marks

Question 7

The diagram below summarises the Atkinson-Shiffrin multi-store model of memory.

The diagram is incomplete.



a. What do the letters X and Y represent?

X: _____

Y: _____

1 mark

b. What is the main cause of information loss from X?

1 mark

Question 8

Two features of the serial position effect are the primacy effect and the recency effect.

a. Distinguish between the primacy effect and the recency effect.

2 marks

b. According to psychologists, the serial position effect provides evidence in support of the multi-store theory of memory.

How can the multi-store theory of memory be used to explain the serial position effect?

2 marks

Question 9

a. Using an example, demonstrate how the strategy of chunking might be used to facilitate memory

1 mark

b. What is one advantage of using the strategy of chunking?

1 mark

Question 10

Even though they were in the same Chemistry class, Wendy sat for her Year 11 exam in the Chemistry lab, while Molly did hers in the School hall.

According to Molly, being able to do the exam in their regular classroom gave Wendy an advantage, even though all the apparatus and posters had been removed.

Is Molly correct? Justify your answer.

2 marks

Question 11

In a study, each of three groups of participants was asked to learn the same list of 20 words, shown one at a time, under different conditions. Later, all participants were tested on their recall of the words.

Group I was asked to make up 20 sentences, each with the target word in it.

Group II was asked to think of words that rhymed with the target words.

Group III was asked to note each target word's print type - whether capital letters, lower case or italics.

- a. Briefly outline the theory that this study was attempting to test.

2 marks

- b. Predict the results of this study.

1 mark

- c. Name the experimental design used and explain why it was appropriate for this study.

2 marks

END OF SECTION B

SECTION C – Extended response question

Instructions for Section C

Please answer either **Question 1** *or* **Question 2**

Answer the question in the spaces provided.

The number of marks allocated to a question indicates the appropriate length of the response.

Section C is worth 10 marks.

Question 1

‘If you are trying to commit something to memory, take a nap.’

Discuss the above statement.

Your response should include

- a description of the two different types of sleep
- an outline of the different types of information that may need to be memorised
- a discussion of the ways in which sleep facilitates the formation of different types of memory
- research and/or anecdotal evidence supporting your ideas

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Question 2

Write a report of the study outlined below.

Your report should include

- a research hypothesis for the study
- identification of the independent variable (IV) and the dependent variable (DV), operationally defined
- an evaluation of the study design
- a discussion of methodological strengths shortcomings
- a statement regarding the significance/non-significance of the results
- a discussion of any ethical issues relating to the study
- a conclusion about the study

Steph conducted a study modelled on that by Loftus (1975) to determine whether the phenomena observed by Loftus could be produced by written material.

The participants were 60 volunteer University students from the university where Steph taught, paid for taking part in the research. Before the study, they were told it would involve answering questions about an incident. All signed a form confirming their participation.

As the participants arrived at the study location they were alternatively labelled as either an X or a Y. All the X's were sent to one room while all the Y's were sent to another.

Once in their rooms, all participants were asked to read a passage describing an accident involving a cyclist and a bystander. After doing this, they were presented with 10 questions about the incident. The questions given to the two groups differed in one respect only: Group X was asked “What was the bystander doing when the cyclist connected with the pedestrian?” while the equivalent question given to Group Y was “What was the bystander doing when the cyclist crashed into the pedestrian?”

Two weeks later, all participants were required to complete the same short questionnaire. One of the questions asked them to estimate the speed with which the cyclist was moving when the accident occurred.

Steph was not aware of the participants' allocated groups and did not have any contact with the participants. All work was carried out by an assistant.

A summary of participants' responses to this question is given below

	Mean estimate of cyclist's speed (in km/h)	<i>p</i> -value for mean difference
Group X	20	<i>P</i> <0.05
Group Y	24	

[illegible]

Use this page as an overlay for marking the multiple choice answer sheets. Simply photocopy the page onto an overhead projector sheet. The correct answers are open boxes below. Students should have shaded their answers. Therefore, any open box with shading inside it is correct and scores 1 mark.

ONE ANSWER PER LINE		ONE ANSWER PER LINE		ONE ANSWER PER LINE	
1	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	16	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	31	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
2	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	17	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	32	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
3	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	18	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	33	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
4	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	19	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	34	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
5	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	20	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	35	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
6	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	21	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	36	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
7	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	22	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	37	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
8	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	23	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	38	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
9	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	24	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	39	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
10	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	25	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	40	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
11	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	26	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	41	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
12	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	27	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	42	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
13	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	28	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	43	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
14	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	29	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	44	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
15	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	30	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	45	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

SECTION A – Multiple-choice questions

1	A	16	D	31	D
2	B	17	A	32	C
3	B	18	D	33	D
4	D	19	C	34	C
5	C	20	A	35	C
6	B	21	A	36	D
7	C	22	A	37	C
8	D	23	C	38	A
9	A	24	A	39	C
10	B	25	A	40	A
11	D	26	D	41	B
12	C	27	D	42	B
13	B	28	B	43	A
14	B	29	C	44	D
15	C	30	B	45	A

SECTION B – Short answer questions

Question 1

a. Answer

- James likened consciousness to a stream, continually moving and changing.
- 1 mark Students make the above point

b. Answer

- Controlled process: information processing that involves
 - conscious awareness and mental effort or
 - focused attention or
 - performing only one task at a time; not being able to divide one's attentionExample: when involved in a new/difficult task, e.g. learning a new dance; learning to drive.
- Automatic process: information processing that involves
 - little conscious awareness and mental effort or
 - minimal attention or
 - does not interfere with performance of other activitiesExample: performing an easy/well learned task, e.g. driving for an experienced driver; reading for a fluent reader.

2 marks Students correctly describe both types of processing and give two appropriate examples
1 mark Students make two or three of the above points

Question 2

Answer

- Distortions of perception, e.g. may have reduced experience of pain.
- Distortion of sensation of time, e.g. may experience time passing more slowly or faster.
- Changes in self-control, e.g. better able to better focus attention.

2 marks Students make any two of the above points
1 mark Students make any one of the above points

Question 3

a. Answer

- Adolescent sleep-wake cycle shift is the hormonally induced forward shift of circadian rhythm that occurs during adolescence.

1 mark Students make the above point

b. Answer

- This causes onset of sleepiness to be delayed by one/two hours, resulting in mismatch between the individual's needs and environmental requirements, in particular school and/or work starting times.
- As a consequence, the adolescent frequently suffers from 'sleep debt' (deprivation that needs to be made up) and may experience resultant problems in concentration and learning.

2 marks Students make both of the above points

1 mark Students make one of the above points

Question 4

a. Answer

- A microsleep is a short period of drowsiness or sleep that takes place when the person appears to be awake.
- REM sleep rebound is the increase in amount of time spent in REM sleep following REM sleep deprivation.

2 marks Students make both of the above points

1 mark Students make one of the above point

b. Answer

- Both microsleep and REM sleep rebound occur after a period of sleep deprivation.

1 mark Students make the above point

Question 5

a. Answer

Device	What device measures	Difference between REM and NREM sleep
EEG	Detects, amplifies and records electrical activity of the brain.	If person in REM sleep, EEG will show beta waves (waves of low amplitude, high frequency); if in NREM sleep, waves will be either Alpha, theta or delta (waves of lower frequency, higher amplitude).
EOG	Detects, amplifies and records electrical activity of the muscles that control eye movements.	If person in REM sleep, EOG will show activity in eye muscles, which are contracting to produce eye movements; if they are in NREM sleep there will be little/no activity and no eye movements.

4 marks Students make all of the above points

3 marks Students make three of the above point

2 marks Students make two of the above points

1 mark Students make one of the above points

b. Answer

- A person's heart rate may be influenced by factors other than the state of consciousness, e.g. the person's emotional state, illness, exercise.

1 mark Students make the above point

Question 6

a. Answer

- Placebo effect: the changes in participants' responses due to their expectations regarding the treatment they believe they are receiving.
- Use single blind procedures (i.e. keep participants ignorant of the group, control or experimental, to which they have been allocated).

2 marks Students make two of the above points

1 mark Students make one of the above points

b. Answer

- Experimenter effect: a change in the results that is due to the experimenter's expectations, actions or biases, rather than to the action of the IV.
- Use double-blind procedures (i.e. both experimenter and participants are ignorant of who is in the control and experimental groups).

2 marks Students make two of the above points

1 mark Students make one of the above points

Question 7

a. Answer

- X: sensory memory store
- Y: short term memory store

1 mark Students make both of the above points

b. Answer

- Information is unattended.

1 mark Students make the above point

Question 8

a. Answer

- Primacy effect: the superior recall of items at the beginning of a list, due to the serial position effect.
- Recency effect: the superior recall of items at the end of a list, due to the serial position effect.

2 marks Students make both of the above points

1 mark Students make one of the above points

b. Answer

- The serial position effect is consistent with the predictions of the multi-store theory of memory. Information presented last is still in STM and can be readily retrieved (recency effect), while information at the start of list has been rehearsed and transferred into LTM, from where it can be retrieved (primacy effect).
- Items in the middle of the list have not been transferred to LTM and have been displaced from STM. Hence, they are less likely to be recalled.

2 marks Students make both of the above points

1 mark Students make one of the above points

Question 9

a. Answer

- Chunking is the process of grouping separate bits of information into a larger unit. For example, a string of numbers can be organised into a telephone number that can be stored as a unit.

1 mark Student makes the above point

b. Answer

- Chunking increases the amount of information that can be held in STM.

1 mark Students make the above point

Question 10

Answer

- Yes, according to retrieval failure theory, Molly is correct.
- Environmental factors present in the specific situation in which a memory was formed (the classroom) can act as context-dependent cues for memory retrieval.

2 marks Students make both of the above points

1 mark Students make one of the above points

Question 11**a. Answer**

- *(Craik and Lockhart's) levels of processing theory. This theory states that the level to which information is processed while in STM determines how well it is stored in LTM and hence how likely it is to be retrieved.*

- *Levels of processing range from shallow to deep; the deeper the processing, the better the recall.*

2 marks Students make both of the above points

1 mark Students make one of the above points

b. Answer

- *Group I: best recall (using shallow processing); Group III: poorest recall (using deep processing).*

1 mark Students make the above point

c. Answer

- *Independent groups design*

- *It is appropriate for this study since it doesn't expose the participants to the same word list twice or two different word lists (as would happen if a repeated measures design were used).*

2 marks Students make both of the above points

1 mark Students make one of the above points

SECTION C – Extended response question**Question 1**

Total = 10 marks

Allocate marks as follows:

- *Discussion of REM and NREM sleep.*

2 marks

- *Discussion of different types of memory: procedural and declarative (or implicit and explicit).*

2 marks

- *Discussion of the relationship between type of sleep and type of memory formation it facilitates.*

3 marks

- *Supporting evidence (experimental or anecdotal).*

2 marks

- *Logical development of ideas.*

1 mark

OR

Question 2

Total = 10 marks

Allocate marks as follows:

- **Research hypothesis:**

University students will give a higher estimate of bicycle speed when "primed" with the leading question that includes the term "crashed into" than when the priming question includes the term "connected with".

2 marks

- **IV: the question regarding the bystander asked after reading of passage: whether this included the term "connected with" or "crashed into".**

- **DV: the estimation of the speed of the cyclist**

2 marks

- **Evaluation of the study design and methodological strengths and shortcomings:**

Study used independent groups design. This avoided order effects.

Study used double-blind procedures, avoiding participant and experimenter effects.

The sample may not adequately represent the population since participants were self-selected and motivated by payment.

2 marks

- **Significance of the results:**

$P < 0.05$, therefore the difference between the two groups' means is significant at the 0.05 level of significance (could not have occurred by chance).

1 mark

- **Ethical issues relating to the study:**

*Ethical requirements regarding informed consent and voluntary participation were met **or** We do not know if participants were given debriefing, as required.*

1 mark

- **Conclusion:**

Study demonstrated that it is possible to manipulate people's memory of an event by a leading question using written material. Thus, this study supports Loftus's findings.

1 mark

- **Logical development of ideas**

1 mark

END OF SUGGESTED SOLUTIONS